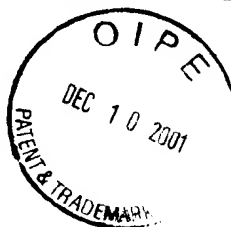




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SEQUENCE LISTING



<110> Yan, Riqiang
Tomasselli, Alfredo G.
Gurney, Mark E.
Emmons, Thomas L.
Bienkowski, Mike J.
Heinrikson, Robert L.

<120> SUBSTRATES AND ASSAYS FOR BETA-SECRETASE ACTIVITY

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<140> 09/908,943

<141> 2001-07-19

<150> 60/219,795

<151> 2000-07-19

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Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
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Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
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Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
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Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
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Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
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Trp Arg Arg Val Glu Ala Leu Tyr Leu Val Glu Gly Glu Arg Lys
1 5 10 15

<210> 43

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 43

Lys Val Glu Ala Asn Tyr Leu Val Glu Gly Glu Arg Lys Lys
1 5 10

<210> 44

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 44

Met Leu Leu Leu
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<210> 45

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
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<400> 45

Asp Ala Ala His Pro Gly
1 5

<210> 46

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 46

Lys Val Glu Ala Asn Tyr Asp Val Glu Gly Glu Arg Lys Lys
1 5 10

<210> 47

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 47

Lys Val Glu Ala Asn Leu Ala Val Glu Gly Glu Arg Lys Lys
1 5 10

<210> 48
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
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peptide sequence

<400> 48
Lys Val Glu Ala Leu Tyr Ala Val Glu Gly Glu Arg Lys Lys
1 5 10

<210> 49
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<220>
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peptide sequence

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<400> 49
Xaa Ala Asn Tyr Glu Val Glu Phe
1 5

<210> 50
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<220>
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peptide sequence

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<400> 50
Glu Xaa Asn Tyr Glu Val Glu Phe
1 5

<210> 51
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<220>
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peptide sequence

<220>

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<400> 51
Glu Ala Xaa Tyr Glu Val Glu Phe
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<210> 52
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<220>
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peptide sequence

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<223> Xaa= Y, L, M, Nle, F or H

<400> 52
Glu Ala Asn Xaa Glu Val Glu Phe
1 5

<210> 53
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<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

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<223> Xaa= E, A, D, M, Q, S or G

<400> 53
Glu Ala Asn Tyr Xaa Val Glu Phe
1 5

<210> 54
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<212> PRT
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<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>
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<223> Xaa= V, A, N, T, L, F or S

<400> 54
Glu Ala Asn Tyr Glu Xaa Glu Phe

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<210> 55
<211> 8
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<220>
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peptide sequence

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<223> Xaa= E, G, F, H, cysteic acid or S

<400> 55
Glu Ala Asn Tyr Glu Val Xaa Phe
1 5

<210> 56
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<400> 56
Glu Ala Asn Tyr Glu Val Glu Xaa
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<210> 57
<211> 8
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<220>
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<400> 57
Xaa Val Leu Leu Ala Ala Gly Trp
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<210> 58
<211> 8
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic peptide sequence

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<400> 58

Gly Xaa Leu Leu Ala Ala Gly Trp
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<210> 59

<211> 8

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic peptide sequence

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<400> 59

Gly Val Xaa Leu Ala Ala Gly Trp
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<210> 60

<211> 8

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic peptide sequence

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<400> 60

Gly Val Leu Xaa Ala Ala Gly Trp
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<210> 61

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

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<400> 61
Gly Val Leu Leu Xaa Ala Gly Trp
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<210> 62
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peptide sequence

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<400> 62
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<210> 63
<211> 8
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<220>
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peptide sequence

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<400> 63
Gly Val Leu Leu Ala Ala Xaa Trp
1 5

<210> 64
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<220>
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peptide sequence

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<400> 64

Gly Val Leu Leu Ala Ala Gly Xaa
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<210> 65
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<212> PRT
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<220>
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peptide sequence

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<400> 65
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<210> 66
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peptide sequence

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<400> 66
Ile Xaa Lys Met Asp Asn Phe Gly
1 5

<210> 67
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peptide sequence

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<400> 67
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1 5

<210> 68
<211> 8

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peptide sequence

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<400> 68
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1 5

<210> 69
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<400> 69
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<210> 70
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<400> 70
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<210> 71
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<400> 71
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<210> 72
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<400> 72
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1 5

<210> 73
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<400> 73
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1 5 10

<210> 74
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<400> 74

Asp Xaa Ser Asn Leu Glu Met Thr His Ala
1 5 10

<210> 75

<211> 10

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<400> 75

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<210> 76

<211> 8

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<223> Xaa= Y, L, M, Nle, F or H

<400> 76

Asp Ser Ser Xaa Met Thr His Ala
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<210> 77

<211> 10

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<400> 77

Asp Ser Ser Asn Leu Glu Xaa Thr His Ala
1 5 10

<210> 78

<211> 10
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1 5 10

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<400> 80
Asp Ser Asn Leu Glu Met Thr His Xaa
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<400> 81
Xaa His Gly Phe Gln Leu Xaa His
1 5

<210> 82
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<400> 82
Thr Xaa Gly Phe Gln Leu Xaa His
1 5

<210> 83
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peptide sequence

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<400> 83
Thr His Xaa Phe Gln Leu Xaa His
1 5

<210> 84
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1 5

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1 5

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peptide sequence

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<210> 88
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<400> 88
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<210> 89
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<210> 91
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peptide sequence

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1 5

<210> 92
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peptide sequence

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Xaa Tyr Thr Xaa Ser Phe Ser Pro
1 5

<210> 93

<211> 8

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peptide sequence

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<210> 95
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peptide sequence

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<210> 98

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peptide sequence

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<222> (4)

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<223> Xaa= any amino acid

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Ser Xaa Asp Xaa Gly Ser Xaa Gly
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<210> 99

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peptide sequence

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Ser Thr Xaa Xaa Gly Ser Xaa Gly

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peptide sequence

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peptide sequence

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Ser Thr Asp Xaa Xaa Ser Xaa Gly

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peptide sequence

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<210> 104
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Ser Thr Asp Xaa Gly Ser Xaa Xaa
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peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (3)
<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<220>
<221> SITE
<222> (4)..(7)
<223> Xaa= any amino acid

<400> 107
Xaa Phe Xaa Xaa Xaa Xaa Xaa Asn
1 5

<210> 108
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)
<223> Xaa= Y, L, M, Nle, F or H

<220>
<221> SITE
<222> (5)..(7)
<223> Xaa= any amino acid

<400> 108
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn
1 5

<210> 109
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)
<223> Xaa = any amino acid

<220>
<221> SITE
<222> (5)
<223> Xaa= E, A, D, M, Q, S or G

<220>
<221> SITE
<222> (6)..(7)
<223> Xaa= any amino acid

<400> 109
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn
1 5

<210> 110
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>
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<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)..(5)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (6)
<223> Xaa= V, A, N, T, L, F or S

<220>
<221> SITE
<222> (7)
<223> Xaa= any amino acid

<400> 110
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn
1 5

<210> 111
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)..(6)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (7)
<223> Xaa= E, G, F, H, cysteic acid or S

<400> 111
Xaa Phe Ala Xaa Xaa Xaa Xaa Asn
1 5

<210> 112
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>
<221> SITE
<222> (1)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (4)..(7)
<223> Xaa= any amino acid

<220>
<221> SITE
<222> (8)
<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 112
Xaa Phe Ala Xaa Xaa Xaa Xaa Xaa
1 5

<210> 113
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 113
Glu Val Asn Leu Asp Ala Glu Phe Arg
1 5

<210> 114
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 114
Asp Tyr Lys Asp Asp Asp Lys
1 5

<210> 115
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 115
Ala Cys Gly Ser Glu Ser Met Asp Ser Gly Ile Ser Leu Asp Asn Lys
1 5 10 15

Trp

<210> 116
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 116
Trp Lys Lys Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Lys
1 5 10 15

Lys

<210> 117
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 117
Ala Asn Leu Ser Thr Phe Ala Gln Pro Arg Arg
1 5 10

<210> 118
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 118
Tyr Arg Tyr Gln Ser His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu
1 5 10 15

Leu His Leu Gly Gly Cys
20

<210> 119
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 119
Tyr Arg Tyr Gln Ser His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu
1 5 10 15

Leu His Leu Gly Gly Cys
20

<210> 120
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 120
Lys Thr Ile Thr Leu Glu Val Glu Pro Ser

1 5 10

<210> 121
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>
<221> SITE
<222> (9)
<223> Xaa= cysteic acid

<400> 121
Val Glu Ala Leu Tyr Leu Val Cys Xaa Gly Glu Arg
1 5 10

<210> 122
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 122
Val Glu Ala Leu Tyr Leu Val Glu Gly Glu Arg
1 5 10

<210> 123
<211> 363
<212> PRT
<213> Homo sapiens

<220>
<223> galactosyltransferase

<400> 123
Met Ala Ser Lys Ser Trp Leu Asn Phe Leu Thr Phe Leu Cys Gly Ser
1 5 10 15
Ala Ile Gly Phe Leu Leu Cys Ser Gln Leu Phe Ser Ile Leu Leu Gly
20 25 30
Glu Lys Val Asp Thr Gln Pro Asn Val Leu His Asn Asp Pro His Ala
35 40 45
Arg His Ser Asp Asp Asn Gly Gln Asn His Leu Glu Gly Gln Met Asn
50 55 60
Phe Asn Ala Asp Ser Ser Gln His Lys Asp Glu Asn Thr Asp Ile Ala
65 70 75 80
Glu Asn Leu Tyr Gln Lys Val Arg Ile Leu Cys Trp Val Met Thr Gly
85 90 95

Pro Gln Asn Leu Glu Lys Lys Ala Lys His Val Lys Ala Thr Trp Ala
100 105 110

Gln Arg Cys Asn Lys Val Leu Phe Met Ser Ser Glu Glu Asn Lys Asp
115 120 125

Phe Pro Ala Val Gly Leu Lys Thr Lys Glu Gly Arg Asp Gln Leu Tyr
130 135 140

Trp Lys Thr Ile Lys Ala Phe Gln Tyr Val His Glu His Tyr Leu Glu
145 150 155 160

Asp Ala Asp Trp Phe Leu Lys Ala Asp Asp Thr Tyr Val Ile Leu
165 170 175

Asp Asn Leu Arg Trp Leu Leu Ser Lys Tyr Asp Pro Glu Glu Pro Ile
180 185 190

Tyr Phe Gly Arg Arg Phe Lys Pro Tyr Val Lys Gln Gly Tyr Met Ser
195 200 205

Gly Gly Ala Gly Tyr Val Leu Ser Lys Glu Ala Leu Lys Arg Phe Val
210 215 220

Asp Ala Phe Lys Thr Asp Lys Cys Thr His Ser Ser Ser Ile Glu Asp
225 230 235 240

Leu Ala Leu Gly Arg Cys Met Glu Ile Met Asn Val Glu Ala Gly Asp
245 250 255

Ser Arg Asp Thr Ile Gly Lys Glu Thr Phe His Pro Phe Val Pro Glu
260 265 270

His His Leu Ile Lys Gly Tyr Leu Pro Arg Thr Phe Trp Tyr Trp Asn
275 280 285

Tyr Asn Tyr Tyr Pro Pro Val Glu Gly Pro Gly Cys Cys Ser Asp Leu
290 295 300

Ala Val Ser Phe His Tyr Val Asp Ser Thr Thr Met Tyr Glu Leu Glu
305 310 315 320

Tyr Leu Val Tyr His Leu Arg Pro Tyr Gly Tyr Leu Tyr Arg Tyr Gln
325 330 335

Pro Thr Leu Pro Glu Arg Ile Leu Lys Glu Ile Ser Gln Ala Asn Lys
340 345 350

Asn Glu Asp Thr Lys Val Lys Leu Gly Asn Pro
355 360

<210> 124

<211> 405

<212> PRT

<213> Homo sapiens

<220>

<223> Homo sapiens sialyltransferase 1

<400> 124

Ile His Thr Asn Leu Lys Lys Lys Phe Ser Cys Cys Val Leu Val Phe

1	5	10	15
Leu Leu Phe	Ala Val Ile Cys Val Trp	Lys Glu Lys Lys Lys Gly Ser	
	20	25	30
Tyr Tyr Asp	Ser Phe Lys Leu Gln Thr	Lys Glu Phe Gln Val Leu Lys	
	35	40	45
Ser Leu Gly	Lys Leu Ala Met Gly Ser Asp	Ser Gln Ser Val Ser Ser	
	50	55	60
Ser Ser Thr	Gln Asp Pro His Arg Gly Arg	Gln Thr Leu Gly Ser Leu	
	65	70	75
Arg Gly Leu	Ala Lys Ala Lys Pro Glu Ala	Ser Phe Gln Val Trp Asn	
	85	90	95
Lys Asp Ser	Ser Ser Lys Asn Leu Ile Pro Arg	Leu Gln Lys Ile Trp	
	100	105	110
Lys Asn Tyr	Leu Ser Met Asn Lys Tyr Lys Val	Ser Tyr Lys Gly Pro	
	115	120	125
Gly Pro Gly	Ile Lys Phe Ser Ala Glu Ala	Leu Arg Cys His Leu Arg	
	130	135	140
Asp His Val	Asn Val Ser Met Val Glu Val	Thr Asp Phe Pro Phe Asn	
	145	150	155
Thr Ser Glu	Trp Glu Gly Tyr Leu Pro Lys	Glu Ser Ile Arg Thr Lys	
	165	170	175
Ala Gly Pro	Trp Gly Arg Cys Ala Val Val	Ser Ser Ala Gly Ser Leu	
	180	185	190
Lys Ser Ser	Gln Leu Gly Arg Glu Ile Asp Asp	His Asp Ala Val Leu	
	195	200	205
Arg Phe Asn	Gly Ala Pro Thr Ala Asn Phe	Gln Gln Asp Val Gly Thr	
	210	215	220
Lys Thr Thr	Ile Arg Leu Met Asn Ser Gln	Leu Val Thr Thr Glu Lys	
	225	230	235
Arg Phe Leu	Lys Asp Ser Leu Tyr Asn Glu	Gly Ile Leu Ile Val Trp	
	245	250	255
Asp Pro Ser	Val Tyr His Ser Asp Ile Pro	Lys Trp Tyr Gln Asn Pro	
	260	265	270
Asp Tyr Asn	Phe Phe Asn Asn Tyr Lys Thr	Tyr Arg Lys Leu His Pro	
	275	280	285
Asn Gln Pro	Phe Tyr Ile Leu Lys Pro Gln	Met Pro Trp Glu Leu Trp	
	290	295	300
Asp Ile Leu	Gln Glu Ile Ser Pro Glu Glu	Ile Gln Pro Asn Pro Pro	
	305	310	315
Ser Ser Gly	Met Leu Gly Ile Ile Ile Met	Met Thr Leu Cys Asp Gln	
	325	330	335
Val Asp Ile	Tyr Glu Phe Leu Pro Ser Lys	Arg Lys Thr Asp Val Cys	

340	345	350
Tyr Tyr Tyr Gln Lys Phe Phe Asp Ser Ala Cys Thr Met Gly Ala Tyr		
355	360	365
His Pro Leu Leu Tyr Glu Lys Asn Leu Val Lys His Leu Asn Gln Gly		
370	375	380
Thr Asp Glu Asp Ile Tyr Leu Leu Gly Lys Ala Thr Leu Pro Gly Phe		
385	390	395
400		
Arg Thr Ile His Cys		
405		

<210> 125
 <211> 518
 <212> PRT
 <213> Homo sapiens

<220>
 <223> Homo sapiens aspartyl protease 1

<400> 125
Met Gly Ala Leu Ala Arg Ala Leu Leu Leu Pro Leu Leu Ala Gln Trp
1 5 10 15
Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr Leu Pro
20 25 30
Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro Thr Pro Gly
35 40 45
Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu Ala Leu Ala Leu
50 55 60
Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala Asn Phe Leu Ala Met
65 70 75 80
Val Asp Asn Leu Gln Gly Asp Ser Gly Arg Gly Tyr Tyr Leu Glu Met
85 90 95
Leu Ile Gly Thr Pro Pro Gln Lys Leu Gln Ile Leu Val Asp Thr Gly
100 105 110
Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile Asp Thr
115 120 125
Tyr Phe Asp Thr Glu Arg Ser Ser Thr Tyr Arg Ser Lys Gly Phe Asp
130 135 140
Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val Gly Glu
145 150 155 160
Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn
165 170 175
Ile Ala Thr Ile Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys
180 185 190
Trp Asn Gly Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser
195 200 205

Ser Ser Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile
210 215 220

Pro Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala
225 230 235 240

Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu Pro
245 250 255

Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu Glu Trp
260 265 270

Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly Gln Ser Leu
275 280 285

Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala Ile Val Asp Ser
290 295 300

Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val Phe Asp Ala Val Val
305 310 315 320

Glu Ala Val Ala Arg Ala Ser Leu Ile Pro Glu Phe Ser Asp Gly Phe
325 330 335

Trp Thr Gly Ser Gln Leu Ala Cys Trp Thr Asn Ser Glu Thr Pro Trp
340 345 350

Ser Tyr Phe Pro Lys Ile Ser Ile Tyr Leu Arg Asp Glu Asn Ser Ser
355 360 365

Arg Ser Phe Arg Ile Thr Ile Leu Pro Gln Leu Tyr Ile Gln Pro Met
370 375 380

Met Gly Ala Gly Leu Asn Tyr Glu Cys Tyr Arg Phe Gly Ile Ser Pro
385 390 395 400

Ser Thr Asn Ala Leu Val Ile Gly Ala Thr Val Met Glu Gly Phe Tyr
405 410 415

Val Ile Phe Asp Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser Pro
420 425 430

Cys Ala Glu Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro Phe
435 440 445

Ser Thr Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu Ser
450 455 460

Glu Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys Gly
465 470 475 480

Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Leu Pro Phe Arg Cys
485 490 495

Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser Ser Leu
500 505 510

Val Arg His Arg Trp Lys
515

<211> 255
 <212> PRT
 <213> Homo sapiens

<220>
 <223> Homo sapiens syntaxin 6

<400> 126
 Met Ser Met Glu Asp Pro Phe Phe Val Val Lys Gly Glu Val Gln Lys
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 Ala Val Asn Thr Ala Gln Gly Leu Phe Gln Arg Trp Thr Glu Leu Leu
 20 25 30
 Gln Asp Pro Ser Thr Ala Thr Arg Glu Glu Ile Asp Trp Thr Thr Asn
 35 40 45
 Glu Leu Arg Asn Asn Leu Arg Ser Ile Glu Trp Asp Leu Glu Asp Leu
 50 55 60
 Asp Glu Thr Ile Ser Ile Val Glu Ala Asn Pro Arg Lys Phe Asn Leu
 65 70 75 80
 Asp Ala Thr Glu Leu Ser Ile Arg Lys Ala Phe Ile Thr Ser Thr Arg
 85 90 95
 Gln Val Val Arg Asp Met Lys Asp Gln Met Ser Thr Ser Ser Val Gln
 100 105 110
 Ala Leu Ala Glu Arg Lys Asn Arg Gln Ala Leu Leu Gly Asp Ser Gly
 115 120 125
 Ser Gln Asn Trp Ser Thr Gly Thr Thr Asp Lys Tyr Gly Arg Leu Asp
 130 135 140
 Arg Glu Leu Gln Arg Ala Asn Ser His Phe Ile Glu Glu Gln Gln Ala
 145 150 155 160
 Gln Gln Gln Leu Ile Val Glu Gln Gln Asp Glu Gln Leu Glu Leu Val
 165 170 175
 Ser Gly Ser Ile Gly Val Leu Lys Asn Met Ser Gln Arg Ile Gly Gly
 180 185 190
 Glu Leu Glu Glu Gln Ala Val Met Leu Glu Asp Phe Ser His Glu Leu
 195 200 205
 Glu Ser Thr Gln Ser Arg Leu Asp Asn Val Met Lys Lys Leu Ala Lys
 210 215 220
 Val Ser His Met Thr Ser Asp Arg Arg Gln Trp Cys Ala Ile Ala Ile
 225 230 235 240
 Leu Phe Ala Val Leu Leu Val Val Leu Ile Leu Phe Leu Val Leu
 245 250 255

<210> 127
 <211> 1728
 <212> DNA
 <213> Artificial Sequence
 <220>

<223> Description of Artificial Sequence: nucleic acid
encoding recombinant fusion protein

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<400> 127
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aagaagctgc agcctgcaca gacagccgcc aagaacctca tcatcttctt gggcgatggg 180
atgggggtgt ctacggtgac agctgccagg atcctaaaag ggcagaagaa ggacaaactg 240
gggcctgaga tacccttggc catggaccgc ttcccatatg tggctctgtc caagacatac 300
aatgtagaca aacatgtgcc agacagtgga gccacagcca cggcctacct gtgcgggggtc 360
aagggcaact tccagaccat tggcttgagt gcagccgccc gctttaacca gtgcaacacg 420
acacgcggca acgaggtcat ctccgtgatg aatcggggca agaaagcagg gaagtcagtg 480
ggagtggtaa ccaccacacg agtgacgac gcctcgccag ccggcaccta cgcacacacg 540
gtgaaccgca actggtactc ggacgcggac gtgcctgcct cggcccgcga ggaggggtgc 600
caggacatcg ctacgcagct catctccaac atggacattg acgtgatcct aggtggaggg 660
cgaaagtaca tgtttcccat ggaacccca gacctgagt acccagatga ctacagccaa 720
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gcccggatat tgtggaaccg cactgagctc atgcaggctt ccctggaccc gtctgtgacc 840
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ttctacacta gtctcatgac catagcctat gtcatggctg ccattctgccc cctcttcatg 1680
ctgccactct gcctcatggt ggactacaag gatgatgatg acaagtag 1728

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<210> 128

<211> 575

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant
fusion protein sequence

<400> 128

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Met Leu Leu Leu Leu Leu Leu Gly Leu Arg Leu Gln Leu Ser Leu
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Gly Ile Ile Pro Val Glu Glu Glu Asn Pro Asp Phe Trp Asn Arg Glu
20             25             30

Ala Ala Glu Ala Leu Gly Ala Ala Lys Lys Leu Gln Pro Ala Gln Thr
35             40             45

Ala Ala Lys Asn Leu Ile Ile Phe Leu Gly Asp Gly Met Gly Val Ser
50             55             60

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Lys Lys Asp Lys Leu
65             70             75             80

Gly Pro Glu Ile Pro Leu Ala Met Asp Arg Phe Pro Tyr Val Ala Leu
85             90             95

Ser Lys Thr Tyr Asn Val Asp Lys His Val Pro Asp Ser Gly Ala Thr

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100	105	110
Ala Thr Ala Tyr Leu Cys Gly Val Lys Gly Asn Phe Gln Thr Ile Gly 115	120	125
Leu Ser Ala Ala Ala Arg Phe Asn Gln Cys Asn Thr Thr Arg Gly Asn 130	135	140
Glu Val Ile Ser Val Met Asn Arg Ala Lys Lys Ala Gly Lys Ser Val 145	150	155
Gly Val Val Thr Thr Thr Arg Val Gln His Ala Ser Pro Ala Gly Thr 165	170	175
Tyr Ala His Thr Val Asn Arg Asn Trp Tyr Ser Asp Ala Asp Val Pro 180	185	190
Ala Ser Ala Arg Gln Glu Gly Cys Gln Asp Ile Ala Thr Gln Leu Ile 195	200	205
Ser Asn Met Asp Ile Asp Val Ile Leu Gly Gly Gly Arg Lys Tyr Met 210	215	220
Phe Pro Met Gly Thr Pro Asp Pro Glu Tyr Pro Asp Asp Tyr Ser Gln 225	230	235
Gly Gly Thr Arg Leu Asp Gly Lys Asn Leu Val Gln Glu Trp Leu Ala 245	250	255
Lys Arg Gln Gly Ala Arg Tyr Val Trp Asn Arg Thr Glu Leu Met Gln 260	265	270
Ala Ser Leu Asp Pro Ser Val Thr His Leu Met Gly Leu Phe Glu Pro 275	280	285
Gly Asp Met Lys Tyr Glu Ile His Arg Asp Ser Thr Leu Asp Pro Ser 290	295	300
Leu Met Glu Met Thr Glu Ala Ala Leu Arg Leu Leu Ser Arg Asn Pro 305	310	315
Arg Gly Phe Phe Leu Phe Val Glu Gly Gly Arg Ile Asp His Gly His 325	330	335
His Glu Ser Arg Ala Tyr Arg Ala Leu Thr Glu Thr Ile Met Phe Asp 340	345	350
Asp Ala Ile Glu Arg Ala Gly Gln Leu Thr Ser Glu Glu Asp Thr Leu 355	360	365
Ser Leu Val Thr Ala Asp His Ser His Val Phe Ser Phe Gly Gly Tyr 370	375	380
Pro Leu Arg Gly Ser Ser Ile Phe Gly Leu Ala Pro Gly Lys Ala Arg 385	390	395
Asp Arg Lys Ala Tyr Thr Val Leu Leu Tyr Gly Asn Gly Pro Gly Tyr 405	410	415
Val Leu Lys Asp Gly Ala Arg Pro Asp Val Thr Glu Ser Glu Ser Gly 420	425	430

Ser	Pro	Glu	Tyr	Arg	Gln	Gln	Ser	Ala	Val	Pro	Leu	Asp	Glu	Glu	Thr
		435					440					445			
His	Ala	Gly	Glu	Asp	Val	Ala	Val	Phe	Ala	Arg	Gly	Pro	Gln	Ala	His
	450					455					460				
Leu	Val	His	Gly	Val	Gln	Glu	Gln	Thr	Phe	Ile	Ala	His	Val	Met	Ala
465					470					475					480
Phe	Ala	Ala	Cys	Leu	Glu	Pro	Tyr	Thr	Ala	Cys	Asp	Leu	Ala	Pro	Pro
			485						490					495	
Ala	Gly	Thr	Thr	Asp	Ala	Ala	His	Pro	Gly	Asn	Tyr	Glu	Val	Glu	Pro
			500					505					510		
Arg	Arg	Ala	Leu	Tyr	Val	Glu	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro
		515					520						525		
Lys	Ala	Leu	Tyr	Leu	Val	Glu	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Ser
	530					535					540				
Leu	Met	Thr	Ile	Ala	Tyr	Val	Met	Ala	Ala	Ile	Cys	Ala	Leu	Phe	Met
545					550					555					560
Leu	Pro	Leu	Cys	Leu	Met	Val	Asp	Tyr	Lys	Asp	Asp	Asp	Asp	Lys	
				565					570					575	

<210> 129

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 129

Lys	Met	Asp	Ala	Glu
1				5

<210> 130

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 130

Gly	Arg	Arg	Gly	Ser
1				5

<210> 131

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

peptide sequence

<400> 131

Val Glu Ala Asn Tyr Glu Val Glu Gly Glu
1 5 10

<210> 132

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 132

Val Glu Ala Asn Tyr Ala Val Glu Gly Glu
1 5 10

<210> 133

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 133

Lys Thr Ile Asn Leu Glu Val Glu Pro Ser
1 5 10

<210> 134

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
peptide sequence

<220>

<221> MOD_RES

<222> (5)

<223> Nle

<400> 134

Lys Thr Ile Asn Xaa Glu Val Glu Pro Ser
1 5 10

<210> 135

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<221> MOD_RES

<222> (5)
<223> Nle

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 135
Lys Thr Ile Asn Xaa Glu Val Asp Pro Ser
1 5 10

<210> 136
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<221> MOD_RES
<222> (5)
<223> Nle

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 136
Lys Thr Ile Asn Xaa Asp Val Asp Pro Ser
1 5 10

<210> 137
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 137
Lys Thr Ile Ser Leu Asp Val Glu Pro Ser
1 5 10

<210> 138
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

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1 5 10

<210> 139
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<220>

<223> Description of Artificial Sequence: synthetic
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<210> 140

<211> 4

<212> PRT

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<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 140

Ser Tyr Glu Val

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<210> 141

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic
peptide sequence

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10

<210> 142

<211> 4

<212> PRT

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<210> 143

<211> 10

<212> PRT

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<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 143

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1

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<210> 144
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peptide sequence

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<210> 145
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Glu Val Ser Tyr Glu Val Glu Phe Arg
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<210> 146
<211> 20
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Val Glu Phe Arg
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<210> 147
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Lys Thr Glu Glu Ile Ser Glu Val Ser Tyr Glu Val Glu Phe Arg
1 5 10 15

<210> 148
<211> 10
<212> PRT
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<400> 148
Thr Glu Val Ser Tyr Glu Val Glu Phe Arg
1 5 10

<210> 149
<211> 10
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<400> 149
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<210> 150
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<210> 151
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<400> 153

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<210> 154

<211> 13

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<221> SITE

<222> (11)

<223> Xaa=tryptophan

<220>

<223> Description of Artificial Sequence: synthetic
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<210> 155

<211> 18

<212> PRT

<213> Artificial Sequence

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<222> (16)

<223> Xaa=tryptophan

<220>

<223> Description of Artificial Sequence: synthetic
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Lys Lys

<210> 156

<211> 23

<212> PRT
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<220>
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<210> 157
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<220>
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<220>
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<223> Xaa=tryptophan

<400> 157
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Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys
20 25

<210> 158
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<400> 158
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<210> 159
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Xaa Lys Lys

<210> 160
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Glu Val Glu Phe Arg Xaa Lys Lys
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<210> 161
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Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys
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<210> 162
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<223> Xaa=oregon green

<220>
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<400> 162
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<210> 163
<211> 18
<212> PRT
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<223> Xaa=oregon green

<220>
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peptide sequence

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1 5 10 15

Lys Lys

<210> 164
<211> 23
<212> PRT
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<220>
<221> SITE
<222> (21)
<223> Xaa=oregon green

<220>
<223> Description of Artificial Sequence: synthetic
peptide sequence

<400> 164
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Val Glu Phe Arg Xaa Lys Lys
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<210> 165
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<212> PRT
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<223> Xaa=oregon green

<220>
<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 165
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1 5 10 15

Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys
20 25

<210> 166
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<223> Xaa=oregon green

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<400> 166
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<210> 167
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<223> Xaa=oregon green

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Xaa Lys Lys

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Glu Val Glu Phe Arg Xaa Lys Lys
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<210> 169
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<223> Xaa=oregon green

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Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys
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<210> 170
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<213> Artificial Sequence

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<210> 171
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<212> DNA
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primer for site-directed mutagenesis of APP

<400> 171
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primer for site-directed mutagenesis of APP

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<210> 173
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<212> DNA
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primer for site-directed mutagenesis of APP

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<210> 176
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primer for site-directed mutagenesis of APP

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<210> 177
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<220>
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<400> 177
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<210> 178
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<400> 178
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<210> 179
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<220>
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<210> 180
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<220>
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<400> 180
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primer for generating mutant construct named
MBPC125-SYEV

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<210> 182
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primer for generating mutant construct named
MBPC125-SYEV

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<210> 183
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<400> 184
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<210> 185
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<210> 189
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peptide sequence

<400> 189
Val Ser Tyr Glu Ala
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<210> 190
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<223> Description of artificial sequence: synthetic peptide sequence

<400> 190

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Trp Lys Lys
1 5 10

<210> 191

<211> 23

<212> PRT

<213> Artificial sequence

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<223> Description of artificial sequence: synthetic peptide sequence

<400> 191

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu
1 5 10 15

Val Glu Phe Arg Trp Lys Lys
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<210> 192

<211> 15

<212> PRT

<213> Artificial sequence

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<223> Description of artificial sequence: synthetic peptide sequence

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<222> (1) .. (1)

<223> amino acid at position 1 is biotinylated

<220>

<221> SITE

<222> (14) .. (14)

<223> cys at position 14 is derivatized with an oregon green

<400> 192

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<210> 193

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<212> PRT

<213> Artificial sequence

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<220>

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<222> (1) .. (1)

<223> amino acid at position 1 is biotinylated

<220>

<221> SITE

<222> (21) .. (21)

<223> cys at position 21 is derivatized with an oregon green

<400> 193

Gly	Leu	Thr	Asn	Ile	Lys	Thr	Glu	Glu	Ile	Ser	Glu	Ile	Ser	Tyr	Glu
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Val	Glu	Phe	Arg	Lys	Lys
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<212> DNA

<213> Artificial sequence

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<223> Description of artificial sequence: synthetic DNA sequence

<400> 194

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<220>

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<221> SITE

<222> (10)..(10)

<223> amino acid at position 10 has been derivatized with Bodipy FL

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